We claim:

1. A fusion protein comprising a first amino acid sequence and a second amino acid sequence, wherein the second amino acid sequence is a β_2-microglobulin.

2. A fusion protein according to claim 1 wherein the second amino acid sequence is a human β_2-microglobulin.

3. A fusion protein according to claim 1 wherein the second amino acid sequence is hβ_2m S55V.

4. A fusion protein comprising first and second domains, wherein the second domain is β_2m.

5. A fusion protein according to claim 4 wherein the first domain joined to the amino terminal of the second domain.

6. A fusion protein according to claim 4 wherein the second domain is hβ_2m.

7. A fusion protein according to claim 4 wherein the first domain is a co-stimulatory protein.

8. A fusion protein according to claim 7 wherein the co-stimulatory protein is selected from the group consisting of B7.1 and B7.2.

9. A fusion protein according to claim 4 wherein the first domain is an integrin, a cytokine or a cell adhesion molecule.

10. A fusion protein according to claim 6 wherein the hβ_2m is hβ_2m S55V.

11. A fusion protein according to claim 4 wherein the first and second domains are linked by a peptide linker.

12. A fusion protein according to claim 4 wherein the fusion protein further comprises a signal peptide joined to the N terminus of the first domain.

13. A fusion protein according to claim 12 wherein the signal peptide is a β_2m signal peptide.

14. A fusion protein according to claim 10 wherein the hβ_2m S55V has an amino acid sequence as shown in Seq. I.D. No. 10.

15. A fusion protein according to claim 6 wherein the protein has an amino acid sequence selected from the group consisting of the sequences shown in Seq. I.D. Nos. 2 and 3.

16. A recombinant nucleic acid molecule encoding a protein according to claim 4.

17. A vector comprising a nucleic acid molecule according to claim 16.

18. A transgenic cell comprising a nucleic acid molecule according to claim 16.

19. A cell having a cell membrane comprising a fusion protein according to claim 4.

20. A cell according to claim 19 wherein the cell is a tumor cell.

21. A protein comprising a structure X-Y wherein X is a protein domain and Y is a beta-2 microglobulin.

22. A protein according to claim 21 comprising a structure X-L-Y wherein L is a linker peptide.

23. A protein according to claim 22 comprising S-X-L-Y wherein S is a signal peptide.

24. A protein according to claim 23 wherein the signal peptide is a β_2m signal peptide.

25. A nucleic acid molecule encoding a protein according to claim 21.

26. A protein according to claim 21 wherein the protein has an amino acid sequence as shown in Seq. I.D. No. 2 or Seq. I. D. No. 3.

27. A method of enhancing the immune response of a mammal to an antigen presented on the surface of a cell, the method comprising:

(a) contacting the cell with a fusion protein according to claim 4 such that the fusion protein is presented on the surface of the cell; and

(b) administering the cell to a mammal.

28. The method of claim 27 wherein the first amino acid sequence is a co-stimulatory molecule.

29. The method of claim 28 wherein the co-stimulatory molecule is B7.1 or B7.2.

30. The method of claim 29 wherein the cell is a tumor cell.

31. A method of enhancing the immune response of a mammal to an antigen presented on the surface of a cell, the method comprising:

(a) transforming the cell with a nucleic acid molecule according to claim 16, such that expression of the nucleic acid molecule results in expression of a fusion protein encoded by the nucleic acid molecule being presented on the surface of the cell; and

(b) administering the cell to a mammal.

32. The method of claim 31 wherein the first amino acid sequence is a co-stimulatory molecule.

33. The method of claim 32 wherein the co-stimulatory molecule is B7.1 or B7.2.

34. The method of claim 33 wherein the cell is a tumor cell.

35. A human β_2-microglobulin molecule having a valine residue at position 55.

36. A human β_2-microglobulin molecule according to claim 35, wherein the molecule comprises the amino acid sequence shown in Seq. I.D. No. 10.

37. A vaccine preparation comprising at least one antigen and a molecule selected from the group consisting of

(a) a human β_2-microglobulin molecule having a valine at position 55; and

(b) a fusion protein comprising a first amino acid sequence and a second amino acid sequence, wherein the second amino acid sequence is a β_2-microglobulin.

38. A vaccine preparation according to claim 37(b) wherein the β_2-microglobulin is $h\beta_2m$ S55V.

39. A vaccine preparation according to claim 37 wherein the antigen is selected from the group consisting of bacterial, viral and tumor antigens.

40. A method of vaccinating a mammal, comprising administering to the mammal a vaccine preparation according to claim 37.

41. A method of vaccinating a mammal, comprising administering to the mammal an antigen and a microglobulin protein selected from the group consisting of:

(a) a human β_2-microglobulin protein having a valine at position 55; and

(b) a fusion protein comprising a first amino acid sequence and a second amino acid sequence, wherein the second amino acid sequence is a β_2-microglobulin.

42. A method of stimulating a tumor-reactive cytotoxic T-cell response, comprising:

(a) isolating T-cells from a patient having a tumor;

(b) isolating tumor cells from the patient;

(c) incubating the tumor cells with a fusion protein according to claim 4, such that the fusion protein is presented on the surface of the tumor cells;

(d) incubating the T-cells in the presence of the fusion protein-presenting tumor cells to increase the number of tumor-reactive T-cells; and

(e) administering a therapeutically effective dose of the tumor-reactive T-cells to the patient.